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Control of magnetic domain formation and domain wall movement in Permalloy nanowires — ●SALEH GETLAWI, MARKUS KÖNIG, MICHAEL R KOBLISCHKA, and UWE HARTMANN — Institute of Experimental Physics, Saarland University, Campus C 6 3, D-66123 Saarbrücken, Germany

Nanoscale magnetic systems have been attracting much attention from both fundamental and technical reasons. For magnetoelectronic applications it is essential to have a variety of structures, where sizes and shapes are precisely controlled with high accuracy. Permalloy nanowires were fabricated using electron beam lithography and the lift-off technique. We have studied the control of magnetic domain formation, domain wall movement and magnetization reversal in magnetic nanowires. The switching field of the nanowires was observed using magnetic force microscopy. The experimental results were compared to those obtained by micromagnetic simulations.

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